

BREAST DISORDERS and BREAST CANCER SCREENING

I. INTRODUCTION

It has been estimated 1 in 4 women in the United States will seek medical attention for breast problems, most of which are benign – such as symptomatic fibrocystic changes, mastodynia, nipple discharge and fibroadenoma. Most breast masses are benign. The National Cancer Institute of the National Institute of Health currently estimates 12.2% as the lifetime risk of developing breast cancer. An American woman now has a 1 in 8 chance of developing breast cancer before she reaches age 85.

Evaluation of breast disease is based on risk factors, age history, and physical examination. History should include: the duration and onset of signs and symptoms, menstrual and reproductive history, hormone use and dietary habits. Factors that increase the risk of breast cancer should be considered (Appendix A).

II. EVALUATION AND MANAGEMENT PALPABLE BREAST MASSES

A. **Background.** Most palpable breast masses are benign. Common benign breast masses include:

1. **Proliferative lesions without atypia (fibrocystic breast changes):**
Tenderness and lump size commonly increase the week before the menstrual period and lessen a week after. Generalized lumpiness or granular feeling especially in the upper outer quadrants and beneath the nipple-areola complex. The lumps may be hard or rubbery and can appear as a single breast lump that may be large or small. Fibrocystic changes can occur in one or both breasts and are the most common cause of benign breast lumps in women age 35 to 50.
2. **Simple cysts.** Cysts are common in women between 35 and 50 years old. Breast cysts are influenced by hormonal function and fluctuation. Cysts are classified as simple, complicated, complex. While simple cysts are nearly all benign, complicated and complex cysts can be malignant.
3. **Intraductal papillomas.** These are small, wart-like growths in the lining of the mammary duct near the nipple. They usually affect women 40 to 50 years of age and can produce bleeding from the nipple or nipple discharge.
4. **Fibroadenomas.** A fibroadenoma is the most common solid breast mass in a woman under the age of 30, but can be seen in older women as well. They are most commonly found in women between the ages of 15 and 35 years. Fibroadenomas usually present as a well-defined, mobile mass on physical examination or a well-defined solid mass on ultrasound.

- B. Evaluation. All client complaints of breast mass should be evaluated:
1. History:
 - a. Onset
 - b. Location
 - c. Duration
 - d. Associated signs or symptoms
 - i. Pain
 - ii. Skin changes
 - iii. Nipple discharge
 - iv. Inversion of nipple (new onset)
 - v. Change in breast size
 - e. Relationship of symptoms to menses in premenopausal women
 2. Examination: The patient should be examined in both the upright and supine positions.
 - a. Visual inspection of the breast:
 - i. Asymmetry
 - ii. Skin changes: dimpling, retraction, edema, ulceration, erythema, eczematous appearance
 - iii. Nipples: symmetry, inversion or retraction, nipple discharge or crusting.
 - b. Palpation
 - i. Regional lymph node examination (cervical, supraclavicular, infraclavicular, and axillary nodes).
 - ii. A bimanual examination of the entire breasts including the axillary tail of Spence and the mid-sternum in the sitting and supine position. During the supine part of the exam the ipsilateral arm should be raised above her head.
 3. Documentation:
 - a. The location of the mass should be documented clearly enough to allow other provider to identify area. Both position (can use "clock" system) and distance from areola should be used.
 - b. The size of any mass in centimeters,
 - c. Mobility,
 - d. Consistency
 - e. Description of associated findings (pain, discharge, skin changes, etc.)
 4. Referral for imaging/diagnostic studies. The appropriate management/diagnostic imaging study is determined based on the woman's age:
 - a. Women younger than 30 years with a palpable mass:

- i. If low clinical suspicion of malignancy can observe for 1-2 cycles to see if mass resolves. If mass persists then ultrasonography is indicated.
 - ii. If high clinical suspicion of potential malignancy, ultrasonography is indicated.
 - iii. If no abnormality is found on ultrasonography,
 - a) but there is clinical suspicion or significant risk factors for breast cancer, diagnostic mammography is recommended. Patient should be referred to gynecologist/breast specialist for follow-up.
 - b) and there is low clinical suspicion for malignancy, then patient can be observed for 1-2 years with physical examination and/or imaging for stability of mass if mass increases in size or other suspicious changes, referral for biopsy is necessary.
- b. Women 30 years or older with a palpable mass:
 - i. Diagnostic mammography should be obtained on all women >30 with a palpable mass - additional imaging with ultrasonography may also be required and should also be ordered.
 - ii. Patients with high clinical suspicion of malignancy or with imaging findings suggestive of malignancy (BI-RADS 4-5) need referral for biopsy.
- 5. Follow-up: The referring clinic should follow up on all imaging and surgical consultations to insure they have been carried out.

III. NIPPLE DISCHARGE

- A. Benign discharge: Most nipple discharge is benign. Benign discharge is more likely to be bilateral, only present when expressed, milky or green in color, and multiductal.
 - 1. Bilateral milky nipple discharge is appropriate during pregnancy and lactation and may persist for up to 1 year postpartum or after cessation of breastfeeding.
 - 2. Galactorrhea, bilateral milky discharge outside of pregnancy and the postpartum interval. Galactorrhea is due to elevated prolactin levels that can be caused by multiple factors, including chronic breast stimulation, endocrinopathies (including hypothyroidism and prolactin-secreting adenomas), and medications that inhibit dopamine.
- B. Malignant discharge: More likely to be unilateral, uniductal, and spontaneous indicates a higher risk of malignancy and requires more thorough evaluation.
- C. Evaluation for nipple discharge includes:
 - 1. History
 - a. Recent pregnancy or lactation

- b. Potential sources of nipple stimulation (e.g. sexual activity, showers, exercise) and relation of discharge to these
 - c. Characterization of color of discharge – milky, clear, yellow, green, multicolor or bloody
 - d. One breast or both (unilateral or bilateral)
 - e. One duct or more (uniductal or multiductal)
2. Clinical breast exam
- a. If accompanying mass identified, follow age-based recommendations outlined above
 - b. If there is discharge that is persistent/reproducible on exam, spontaneous, unilateral, single duct or bloody (serous, sanguineous or sero-sanguineous) patient will need referral to imaging (see below) and gynecologist and/or surgical consult.
 - i. Younger than 30: Ultrasound with possible mammography
 - ii. 30 or older: diagnostic mammography and ultrasonography
 - c. If discharge is bilateral and milky:
 - i. Pregnancy test.
 - ii. If negative pregnancy test needs galactorrhea work up (TSH, prolactin level – to be done 24 or more hours after last nipple stimulation including breast exam). Referral to endocrinologist if abnormal.
 - d. If discharge is not bloody and it is nonspontaneous or multiductal
 - i. Younger than 40: Educate on reducing/eliminating nipple stimulation and follow up to see if discharge disappears. Patient should report spontaneous discharge
 - ii. 40 and older: Educate on reducing/eliminating nipple stimulation. Diagnostic mammography and ultrasonography. Referral for evaluation of abnormal findings

III. BREAST CANCER SCREENING IN WOMEN OF AVERAGE RISK

Screening for breast cancer has traditionally included three elements:

1. Patient self-screening via self-breast-examination (SBE),
2. Annual clinical breast examination (CBE) and
3. Breast imaging (usually mammography) with frequency determined by age

Recently there have been changes in recommendations made by several leading medical organizations which has led to some confusion and controversy regarding at what age to start and stop breast cancer screening as well as how frequently to conduct screening. The recommendations included here are based on current ACOG recommendations. All entities agree however emphasize the importance of shared decision-making between patient and providers that takes

into consideration a patient's individual risk as well as her values and preferences regarding the potential benefits and risks of screening.

A. Breast Self Exam

Recent studies have shown breast cancer survival is no greater in women who practice BSE than those who do not. However, about half of breast cancers in women over 50 and more than 70% of cancers in women 50 and younger were detected by the women themselves. Most of these are incidental findings of women in the course of activities of daily living such as showering and dressing or in the course of sexual activity and not during the course of BSE (the regular, monthly, systemic exam previously promoted). Women should be educated on the concept of breast self-awareness – being aware of the normal appearance and feel of her breasts – and to come in for timely evaluation of masses or other symptoms that are new to her. Breast self-awareness can include BSE if a woman desires it, and should not be discouraged.

B. Clinical Breast Exam:

Clinical breast exam is a breast exam that is conducted by a health care provider with the aim of detecting changes that may be associated with malignancy. The recommended frequency is age based:

1. Age 20-39 years old – every 1-3 years
2. 40 and older – annually

C. Mammography

1. Annually starting at age 40 and continuing while woman is in good health without an upper age limit*

*This is based on the current recommendation by ACOG and the National Comprehensive Cancer Network (NCCN) which at this time differ from the American Cancer Society and the U.S. Preventative Services Task Force.

IV. BREAST CANCER SCREENING IN WOMEN AT INCREASED RISK

Women at increased risk for breast cancer may benefit from enhanced screening, which may include increased frequency of clinical breast exam, instruction in BSE, annual mammography, and annual breast MRI. The following women should be considered candidates for enhanced screening:

- A. Women who test positive for BRCA1 or BRCA2 mutations
- B. Women who have first-degree relatives (i.e. mother, sister, daughter) BRCA1 or BRCA2 mutations but who are untested
- C. Women with an estimated lifetime risk of breast cancer 20% or higher (based on models that rely on personal and family history)
- D. Women who have received thoracic irradiation between 10-30 years of age
- E. Women with personal history of high-risk breast biopsy results (e.g. atypical hyperplasia or lobular carcinoma in situ)

REFERENCES

ACOG Practice Bulletins – Gynecology Diagnosis and Management of Benign Breast Disorders, Number 164, June 2016

ACOG Practice Bulletins – Breast Cancer Screening, Number 122, August 2011 (Reaffirmed 2014)

APPENDIX A

FACTORS THAT INCREASE THE RISK OF BREAST CANCER

1. Increased age
2. Previous history of breast cancer
3. Nulliparity
4. Delayed childbearing (after age 30)
5. Early menarche (before age 12)
6. Late menopause (after age 53)
7. Family history of breast cancer (first degree relative)
8. Biopsy-proven ductal or lobular hyperplasia, particularly atypia
9. Higher socioeconomic status
10. Obesity
11. Moderate to high alcohol intake (2 to 5 drinks per day)
12. Genetics: BRCA1 or BRCA2 mutation

APPENDIX B

INDICATIONS FOR REFERRAL

1. Dominant mass
2. Marked increase in size or firmness of one breast
3. Retraction of the nipple or the skin
4. Redness and edema over at least a third of the breast with underlying induration
5. Bloody nipple discharge
6. Changes in nipple epithelium, such as erosion
7. Mammographic evidence of breast disease
8. Genetic counseling/ testing may be considered for clients with a strong family history

APPENDIX C

RECOMMENDED STEPS WHEN REFERRING FOR POSSIBLE BREAST LESION

1. Advise the client of the need for a surgical consultation and give her the name(s) of a surgeon. Provide the full name, address, and telephone number of the surgeon.
2. Complete a clinic referral form for the client and attach a duplicate copy for the client's record.
3. Give the client the referral to take to the surgeon, and request that the form be returned to the clinic after the surgeon has completed the evaluation and provided a note for the clinic record.
4. Give the client an appointment for a family planning visit within 6 weeks of referral.